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ANOTHER NEW WATER SNAKE OF THE GENUS *NATRIX* FROM THE MEXICAN PLATEAU

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The presence of a water snake in one of the isolated river systems of north central Mexico was unsuspected until 1946 when a single specimen was collected in the Río Nazas near the village of La Goma, Durango. Studies made upon it and a series of eight additional specimens acquired in 1949 resulted in the description of the population as *Natrix erythrogaster bogerti* (Conant, 1953). This form is confined to the drainage system of the Río Nazas, a stream that rises in the highlands of western Durango and which, prior to the use of most of its water for agriculture and industry, emptied into the Laguna de Mayrán, a desert bolson in southwestern Coahuila near the city of Torreón.

Recent collecting has demonstrated the presence of another race of the same species in a second isolated drainage system, in the Río Aguanaval, which rises in the highlands of Zacatecas but becomes an intermittent stream before reaching its mouth in the Laguna de Viesca, another bolson of southwestern Coahuila. For this form I propose the name:

Natrix erythrogaster alta, new subspecies

Holotype: American Museum of Natural History No. 84152, a young adult ♂, collected 19 July 1959, in the Río Trujillo (known locally as the Río Florido), at the village of Río Florido, approximately 15 miles NW of Fresnillo, Zacatecas, by Roger Conant.

Paratypes: AMNH No. 84151, 85320–322 and University of Michigan Museum of Zoology No. 118398–400, 123259, all from approximately one mile downstream from the type locality at or near a small impoundment of the river; AMNH No. 88954–89056, all from the Río Trujillo (known locally as the Río Medina) near Rancho Grande, Zacatecas. This last group includes 93 young born in captivity shortly after their mothers were collected.

Diagnosis: A *Natrix* of the *erythrogaster* complex distinguished from (a) the pallid, pinkish *bogerti* by its dark coloration and marked contrast between the black or dark brown dorsal blotches and the pale ground color, and by a lower number of ventrals and a greater number of subcaudals; and from (b) *transversa,* the only other race of *erythrogaster* occurring in Mexico, by its narrow lateral markings and presence of only one upper labial entering the orbit.

Description of holotype: Head scutes the same in number and general arrangement as in other races of the species. Two nasals, the anterior bearing the nostril entirely within it. Loreal subtrapezoidal, about as high as wide. One preocular; postoculars two (on left side of head) and three (on right), the lowermost extending well forward beneath the eye, nearly reaching the preocular and completely cutting off the 5th labial from the orbit. One temporal in the first row and two in the second row. Supralabials 8, the 6th and 7th the largest; the 4th entering the orbit. Infralabials 10 on the left side of the head and 9 on the right, the 6th the largest on both sides, and the first pair meeting on the midventral line; first 5 on each side in contact with the corresponding anterior chin shield. Two pairs of chin shields, the posterior slightly longer than the anterior.

Dorsal scales with two apical pits. Scale rows 23–25–23–21–19, all carinate throughout the length of the body and tail; the increases and decreases may be expressed by the Dowling system (1951) as follows:

$$23\ \frac{+6\ (33)}{+6\ (37)}\ 25\ \frac{6+7\ (65)}{5+6\ (57)}\ 23\ \frac{5+6\ (80)}{5+6\ (82)}\ 21\ \frac{4+5\ (103)}{4+5\ (103)}\ 19\ (140)$$

The scales of the 6th row on the left drop out irregularly between points above the 57th to the 82nd ventral, so that counts of 24 are possible in several places.

The ventrals, as indicated at the end of the formula, are 140, plus a divided anal plate; two half ventrals are not counted, one wedged in between the 10th and 11th ventral on the left side of the body and one between the 16th and 17th ventral on the right. Subcaudals 87 pairs. Total length 785 mm; tail length 226 mm; tail length/total length 27 per cent. Both hemipenes are everted.

Dorsum marked with a series of dark dorsal blotches numbering 42 from the head to a point directly above the anus; the blotches are 2½ to 3 scales long (in the longitudinal axis of the body) and average 10 scales wide on the anterior part of the body, but they narrow toward the tail and are reduced to 4 scales in width in the anal region. Smaller, vertically elongated lateral blotches, hereinafter called bars, alternate with the dorsal blotches from a point posterior to the second dorsal blotch all the way to the anal region. The bars are one scale in width and involve the 2nd to 6th row of scales on the anterior parts of the body and the 2nd to 5th posteriorly.

The colors were recorded in life; capitalized names in the following descriptions are in accordance with Ridgway (1912).

Dorsal blotches Olive-Brown bordered anteriorly and posteriorly with dark brown. Lateral bars also Olive-Brown, the skin between the scales within their borders very dark gray, almost black. Dorsal ground color light olive-brown (between Light Brownish Olive and Isabella Color), the skin between the scales between adjacent dorsal blotches is pale yellow (Colonial Buff); on the sides of the body the edges of the scales and the skin between them is Honey Yellow. Tail Buffy Brown, not patterned.

Top of head almost plain Sepia but with a pair of scarcely discernible pale spots on the frontal and a similar pair situated farther posteriorly, one spot at the anterior corner of each parietal. A pair of faint spots along the common suture of the two parietals, followed posteriorly by a smaller but similar pale spot. A median post-parietal light streak the width of one scale and the length of about a scale and a half. Temporal region reddish (Mahogany Red). The sutures between the labials, both upper and lower, are Burnt Sienna. Pupil of eye black, narrowly edged with gold; iris Brownish-Olive, but flecked with dark pigment. Tongue pink but stippled with gray, especially on the tips.

Belly pale yellowish-orange (Ochraceous-Buff) turning to pale yellow in the neck region and changing to cream-color on the chin, throat, and labials. Belly virtually uniform in coloration except that the lateral tips of the ventrals are pigmented with the dorsal ground color and the antero-laterad edges of the ventrals are lightly stippled with brownish-gray. Similar dusky stipplings appear across the anterior portions of the subcaudals. A patch of orange (Xanthine Orange) on the side of the neck postero-ventrad to the angle of the jaw. Underside of tail Ochraceous-Buff but becoming browner (Ochraceous-Tawny) near the tip.

Comparisons with allied races: The contrast between the strongly patterned *alta* and the pale pinkish *bogerti* is strongly evident at all ages, except in the very young. At birth, both forms exhibit a pattern of dark blotches and lateral bars on a pale gray ground color, but the markings are grayer, hence less intensely in contrast with the ground color in *bogerti*. The skin between the scales in the ground color of newborn individuals of both forms is pink or orange-pink. In *alta* the dorsal markings remain dark and continue to be sharply differentiated from the ground color as the snake grows and increases in size. This pattern feature is strikingly evident in the field or when specimens are submerged in liquid. In the largest adults the ground color darkens and the markings lighten with the net result that the dorsum approaches a uniform brown or olive-brown coloration. In *bogerti* the dark gray markings of the juveniles grow paler with age, and even half-grown individuals may be nearly unicolored, especially on the posterior part of the body. In *alta* the lateral bars are prominent in all specimens except the largest adults; the scales involved in the bars are strongly pigmented. In *bogerti* the lateral bars pale rapidly with growth, and in adults all really dark pigment is confined to the skin between the scales.

Ventrals and subcaudals (with the number of specimens involved indicated within parentheses) may be summarized as follows:

(a) *alta*—Ventrals in (58) ♂♂ 138 to 143, mean 140.0; in (54) ♀♀ 140 to 144, mean 142.1. Subcaudals in (58) ♂♂ 84 to 90, mean 87.1; in (48) ♀♀ 69 to 76, mean 73.0.

(b) *bogerti*—Ventrals in (12) ♂♂ 141 to 145, mean 142.9; in (18) ♀♀ 143 to 148, mean 145.3. Subcaudals in (12) ♂♂ 82 to 85, mean 83.3; in (18) ♀♀ 68 to 76, mean 71.7.

The meristic differences are best demonstrated by subtracting the number of subcaudals from the number of ventrals in each individual specimen. The resulting figure (the remainder) among males of *bogerti* is 57 or greater in all (100%); among males of *alta* it is fewer than 57 in 98.3% of the specimens. The corresponding remainder among females of *bogerti* is 72 or more in 88.9%; among females of *alta* it is fewer than 72 in 91.7%.

There are other minor differences in scutellation between *alta* and *bogerti,* but comment upon these is reserved for a monographic study of the genus *Natrix* in Mexico, which is now in preparation.

The lateral bars in *transversa* are almost always one and one-half to two scales or more in width, whereas in *alta* (and *bogerti*) the bars are about the equivalent of one scale wide or less. Every specimen of *alta* (100%) has only one upper labial entering the eye; among 86 specimens of *transversa* from Mexico two labials enter the eye in 140 cases (81.9%) and only one enters in 31 cases (18.1%). The condition in *bogerti* is somewhat intermediate.

The name *alta* (L. *altus,* high) is in reference to the upland elevations of the localities, circa 6500 to 6700 feet, from which this snake is known and which represent the highest stations for *Natrix* yet recorded for the western hemisphere.

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